

MAP OF THE WESTERN PART OF THE JOSHUA TREE NATIONAL MONUMENT, CALIFORNIA  
SHOWING RECONNAISSANCE GEOLOGY AND LOCATION OF WELLS AND SPRINGS

MAP SYMBOLS

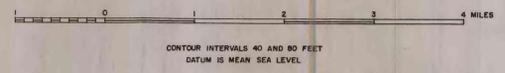
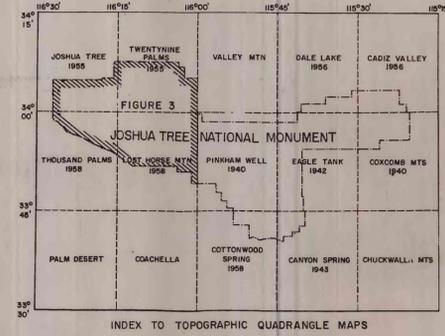
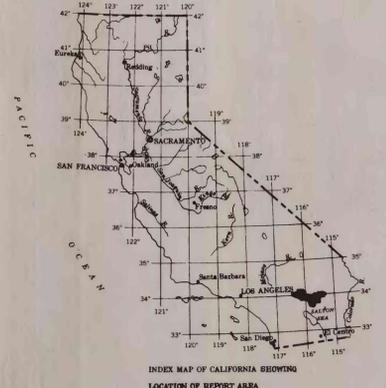
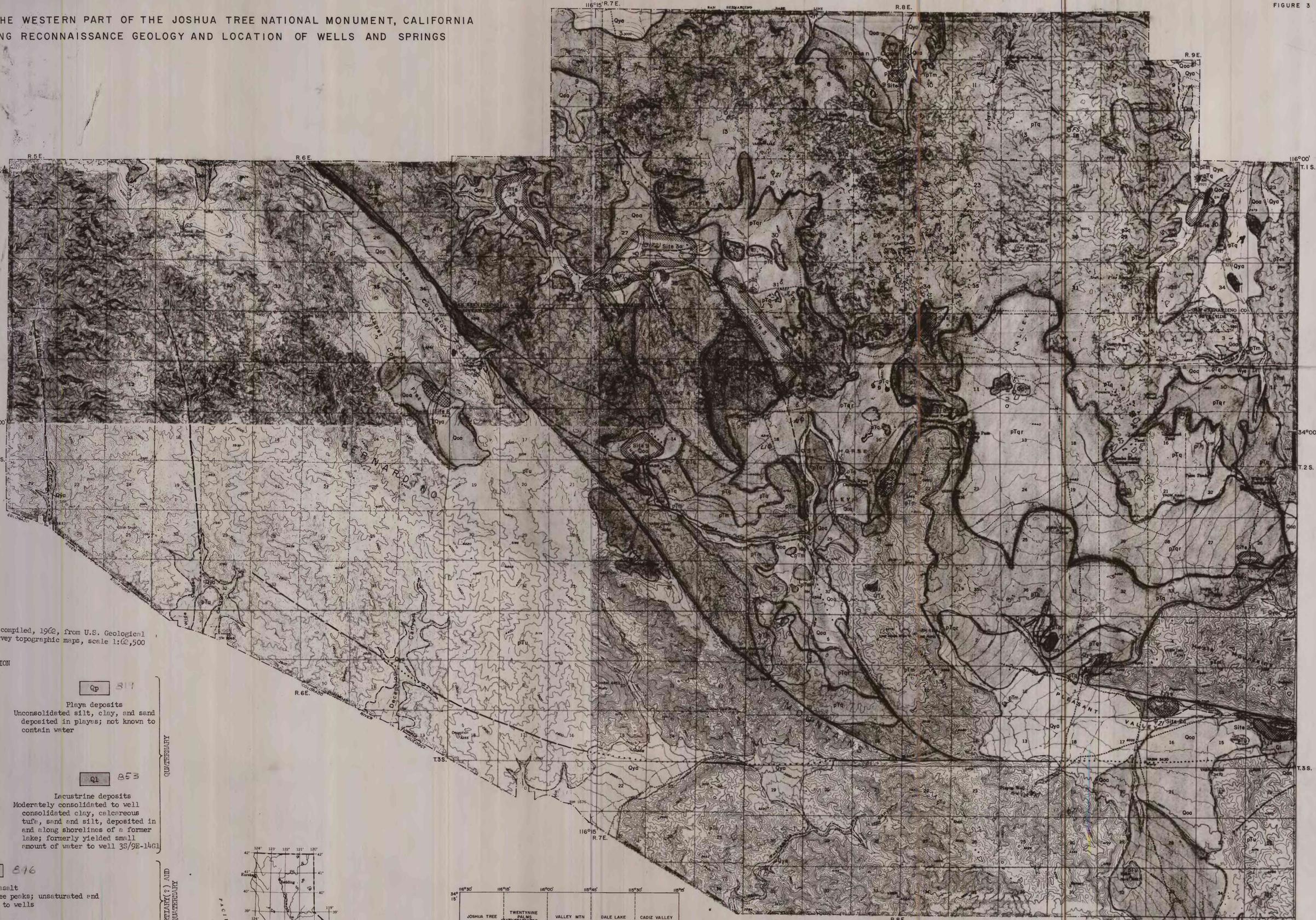
- Contact  
Dashed where approximately located
- Fault  
Dashed where approximately located, dotted where concealed, queried, where doubtful
- (3672)  
C<sub>1</sub>  
Domestic, test, or unused well  
Numbers in parentheses indicate altitude of ground-water surface in upper part of Quail Wash
- Φ P  
Dry or destroyed well
- NS  
Flowing spring
- C<sub>2</sub>S  
Ephemeral spring
- Φ<sub>2</sub>S  
Dry spring
- Letter next to well or spring indicates position in section as shown below:  

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R
- Letter Z indicates the well was plotted from an unverified location description
- Site 10  
Area suggested for exploratory drilling
- δ  
Precipitation station

EXPLANATION

- Recent
  - Q<sub>ya</sub> 817  
Younger alluvium  
Unconsolidated, poorly sorted, sand, gravel, silt, and clay; commonly overlies older units in valleys, canyons, and stream channels; almost entirely above the water table, but possibly yields water to wells locally
  - Q<sub>p</sub> 817  
Playa deposits  
Unconsolidated silt, clay, and sand deposited in playes; not known to contain water
- Pleistocene
  - Q<sub>oa</sub> 862  
Older alluvium  
Unconsolidated to moderately indurated, dissected, very poorly sorted sand, gravel, silt, and clay, where saturated would yield moderate amount of water to wells
  - Q<sub>l</sub> 853  
Lacustrine deposits  
Moderately consolidated to well consolidated clay, calcareous tuff, sand and silt, deposited in and along shorelines of a former lake; formerly yielded small amount of water to well 35/9E-1461
- Pliocene (?) and Pleistocene
  - Q<sub>tv</sub> 816  
Olivine basalt  
Vesicular basalt capping three peaks; unsaturated and yields no water to wells
  - 864
  - p<sub>tu</sub> 863  
p<sub>tm</sub> 865
- Basement complex  
p<sub>tu</sub>, undifferentiated igneous and metamorphic rocks. Includes undated poorly exposed, tilted and deformed sedimentary rocks locally, as in NW 1/4 sec. 19, T. 2 S., R. 7 E.
- p<sub>tr</sub>, residuum, composed of quartz monzonite and some granite, moderately consolidated and developed in place by weathering, sometimes referred to as decomposed granite, unit locally is covered by a thin veneer of alluvium; locally yields small amount of water to wells.
- p<sub>ti</sub>, igneous intrusive rocks consisting of quartz monzonite and other granitic rocks; joints and fractures locally yield small amount of water to wells and springs.
- p<sub>tn</sub>, metamorphic rocks, consisting of schist, gneiss, and quartzite, closely associated with granitic rocks; yield no water.

Base compiled, 1962, from U.S. Geological Survey topographic maps, scale 1:62,500



Geology and well locations by J.S. Bader and J.E. Weir, Jr., 1961, and W.R. Moyle, Jr., 1958. Geology, in part, adapted from published mapping by Rogers, J.J.W., 1954